

WHAT IS CLAIMED IS:

1. A method for receiving data telegrams, which are identified by identifiers, in an isochronous real-time fast Ethernet data network for real-time communication, wherein a node has at least a first receive port and a second receive port, and wherein the data network has at least one redundant network path, the method comprising:

at the first receive port, receiving a first data telegram at a first timer value, wherein the first data telegram has an identifier;

in a memory of the node, storing user data of the first data telegram in an address space that is assigned to the identifier;

storing the first timer value;

at the second receive port, receiving a second data telegram at a second timer value, wherein the second data telegram has the identifier of the first data telegram; and

if the first timer value and the second timer value are not identical, overwriting the address space and the stored first timer value of the first data telegram with user data of the second data telegram and with the second timer value of the second data telegram;

wherein a respective one of the first and second timer values, at which a respective one of the first and second data telegrams is received, corresponds to a cycle number of an isochronous cycle during which the respective one of the first and second data telegrams is received.

2. The method as claimed in Claim 1, further comprising:

if the first and the second timer values are identical, if the user data of the first data telegram are not valid, and if the user data of the second data telegram are valid, overwriting the address space with the user data of the second data telegram.

3. The method as claimed in Claim 1, wherein the address space, which is assigned to the data telegrams having the identifiers, is overwritten with respective user data of a respective one of the data telegrams, only if the respective data telegram having a respective one of the identifiers is valid.

4. The method as claimed in Claim 1, wherein, in addition to receiving real-time critical data, non-real-time critical data are received.

5. The method as claimed in Claim 1, wherein only user data of valid data telegrams are stored in the address space.

6. A node having an application in an isochronous real-time fast Ethernet data network for real-time communication with at least one redundant network path, the node comprising:

a first receiver configured to receive a first data telegram at a first receive port and at a first timer value, wherein the first data telegram has an identifier;

a memory, wherein the memory is configured to store user data of the first data telegram in an address space that is assigned to the identifier, and wherein the memory is configured to store the first timer value;

a second receiver configured to receive a second data telegram at a second receive port and at a second timer value, wherein the second data telegram has the identifier of the first data telegram; and

a writer configured to overwrite the address space and the stored first timer value of the first data telegram with user data of the second data telegram and with the second timer value of the second data telegram, if the first timer value and the second timer value are not identical;

wherein a respective one of the first and second timer values, at which a respective one of the first and second data telegrams is received, corresponds to a cycle number of an isochronous cycle during which the respective one of the first and second data telegrams is received.

7. An isochronous real-time fast Ethernet data network for real-time communication, comprising:

at least one redundant network path; and
a plurality of nodes, wherein at least one node has an application, and wherein the at least one node comprises:

a first receiver configured to receive a first data telegram at a first receive port and at a first timer value, wherein the first data telegram has an identifier;

a memory, wherein the memory is configured to store user data of the first data telegram in an address space that is assigned to the identifier, and wherein the memory is configured to store the first timer value;

a second receiver configured to receive a second data telegram at a second receive port and at a second timer value, wherein the second data telegram has the identifier of the first data telegram; and

a writer configured to overwrite the address space and the stored first timer value of the first data telegram with user data of the second data telegram and with the second timer value of the second data telegram, if the first timer value and the second timer value are not identical;

wherein a respective one of the first and second timer values, at which a respective one of the first and second data telegrams is received, corresponds to a cycle number of an isochronous cycle during which the respective one of the first and second data telegrams is received.

8. A computer program product for a node in an isochronous real-time fast Ethernet data network for real-time communication by means of data telegrams identified by identifiers, the computer program product comprising:

a computer-readable medium; and
computer-readable instructions on the computer-readable medium enabling a processor to perform the following operations:

at a first receive port, receiving a first data telegram at a first timer value, wherein the first data telegram has an identifier;

in a memory of the node, storing user data of the first data telegram in an address space that is assigned to the identifier; storing the first timer value; at a second receive port, receiving a second data telegram at a second timer value, wherein the second data telegram has the identifier of the first data telegram; and if the first timer value and the second timer value are not identical, overwriting the address space and the stored first timer value of the first data telegram with user data of the second data telegram and with the second timer value of the second data telegram; wherein a respective one of the first and second timer values, at which a respective one of the first and second data telegrams is received, corresponds to a cycle number of an isochronous cycle during which the respective one of the first and second data telegrams is received.